

The optical displacement measurement system **ODS-20** is now able not only to measure the vibration excursion of bond tools for wire and die bonders, but also to measure the bond force dynamically.

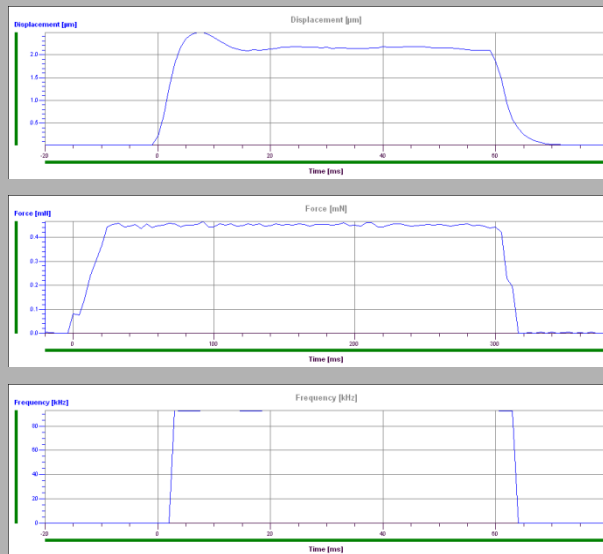
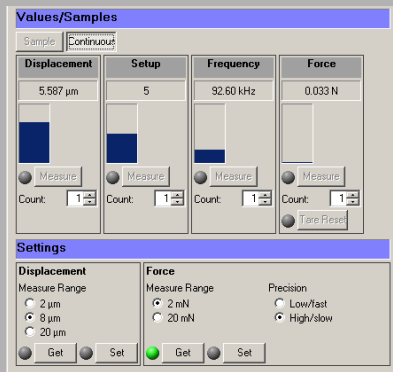
The **ODS-20** scans the mechanical oscillating tool using eye-safe visible red laser light.

An optional available load cell, integrated in the sensor head or as a separate sensor head, is used for bond force measurement.

With the **ODS-20** one can check and calibrate the output of the ultrasonic generator using the displacement values, measured at the tip of the bonding tool. Now it will become easy to evaluate also the function of the bond force generating system of a bonder.

The **ODS-20** can be used for all common bonding tools - wedges, capillaries and die collets.

ODS-20





Displacement evaluation of vibrating bond tool
 Frequency evaluation of vibrating bond tool
 Bond force evaluation

Specification

Measurement tasks

Mechanical displacement (peak-peak)
 Mechanical vibration frequency
 Bond force ¹⁾

Measured values

3 selectable ranges
 range 1: 0.1 to 2 μm @ 30..250 kHz
 range 2: 0.1 to 8 μm @ 30..200 kHz
 range 3: 0.1 to 20 μm @ 30..150 kHz

Displacement measuring ranges ^{2) 3)}

range 1: $\pm 0.05 \mu\text{m}$
 range 2: $\pm 0.1 \mu\text{m}$
 range 3: $\pm 0.2 \mu\text{m}$

Displacement measuring accuracy

range 1 + 2: 0.001 μm
 range 3: 0.01 μm

Displacement measuring resolution

30 .. 250 kHz with ± 20 Hz accuracy

Frequency measurement range and accuracy

2 selectable ranges
 range 1: 0 to 2 N
 range 2: 0 to 20 N

Bond force measuring ranges ¹⁾

range 1: $\pm 0.01 \text{ N } (\pm 1\text{g})$
 range 2: $\pm 0.5\%$, minimum $\pm 0.02 \text{ N } (\pm 2\text{g})$

Bond force measuring accuracy

$\pm 0.5\%$

Bond force linearity

Class II (eye safe)

Laser class

Power supply

Plug-in power supply
 100 – 240 VAC, 50/60 Hz
 15 VDC, stabilized
 max. 1.0 A

Type

Input voltage

Output voltage

Output current

Dimensions, Weight

length / height / width (weight)
 2.56" x 0.83" x 0.6" (approx. 40g)

Laser sensor

length / height / width (weight)
 6.1" x 3.54" x 8.03" (approx. 1100g)

Electronic unit

length / height / width (weight)
 2.76" x 1.97" x 1.57" (approx. 150g)

Power supply

Optional features

USB communication port and data sampling software
 Internal data capturing (Min- and Max-values)
 External trigger input for data sampling

¹⁾ Applicable, if bond force option ordered.

²⁾ Other measuring ranges are possible, please ask for special calibrations.

³⁾ All displacement values are peak-peak.